

Title (en)  
Process for the regeneration of a permanganate etchant bath.

Title (de)  
Verfahren zur Regenerierung eines Permanganatbeizbades.

Title (fr)  
Procédé de régénérer d'un bain réactif de permanganate.

Publication  
**EP 0336542 B1 19950118 (EN)**

Application  
**EP 89301730 A 19890222**

Priority  
US 16575288 A 19880309

Abstract (en)  
[origin: EP0336542A1] A process is described for the electrolytic oxidation of manganese dioxide to an alkali metal permanganate by carrying out the electrolysis in dilute alkali metal hydroxide solution (2) using a non-sacrificial anode (6) and a cathode (10) comprising an alkaliresistant electrode (12) immersed in concentrated alkali metal hydroxide solution (16) in a porous container (18). The process is particularly adapted to the regeneration of alkali metal permanganate from manganese dioxide which has been precipitated during use of a permanganate bath as an etchant in the fabrication of printed circuit boards and like purposes.

IPC 1-7  
**C01G 45/12**; **C25B 1/28**

IPC 8 full level  
**C25B 1/28** (2006.01); **C25B 1/30** (2006.01); **H05K 3/00** (2006.01)

CPC (source: EP US)  
**C25B 1/28** (2013.01 - EP US); **H05K 3/0055** (2013.01 - EP US)

Citation (examination)  
• CHEMICAL ABSTRACTS, vol. 89, no. 26, 25 December 1978, abstract no 223042d W.P. Innes "Electrolytic regeneration of chromic acid etchants", & Plat.Surf. Finish, vol. 65, no. 11, pages 36-40, 1978  
• CHEMICAL ABSTRACTS, vol.84, no. 8, 23 February 1976, abstract no 51403a, G.R. Agladze et al "Production of potassium permanganate using a bipolar filled electrode", & Elektrokhim. Margantsa vol. 5, pages 307-317, 1975.  
• SOVIET INVENTIONS ILLUSTRATED; DERWENT PUBLICATIONS LTD, SECTION CHEMICAL 1 August 1979, abstract no. 46673 week B 25

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**US 16575288 A 19880309**; CA 590993 A 19890214; DE 68920615 T 19890222; EP 89301730 A 19890222; JP 5526789 A 19890309